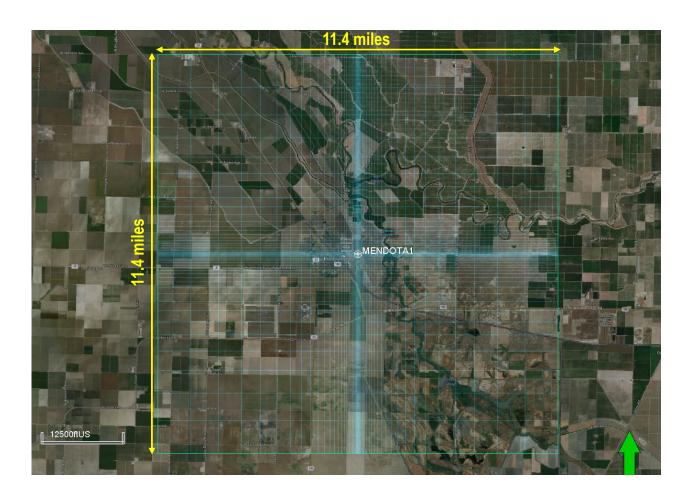
## **Model Domain and Tartan Grid**

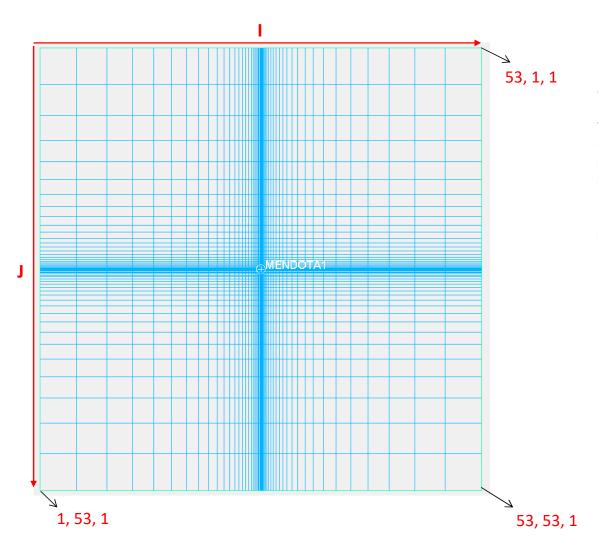


X<sub>min/max</sub>: 1570305.76/ 1630305.76

Y<sub>min/max</sub>: 490689.19 / 550688.99

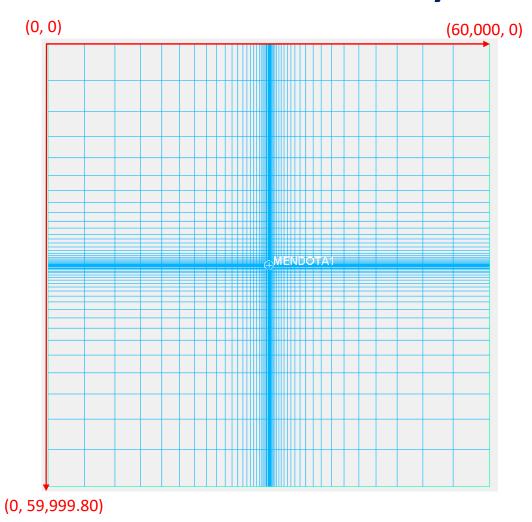
Z<sub>min/max</sub>: -16042.75/ -4073.92 (Subsea elevation)

### **Coordinates - IJK**



All the grid properties i.e. PORO, PERMX, SGAS, etc, can be introduced to the grid following the I,J,K coordinate system. In this system I coordinate is the fastest and K coordinate is the slowest loop. For instance, the first value in permeability file belongs to the cell(1,1,1) and the next value represents cell(2,1,1).

# **COORD - Keyword**

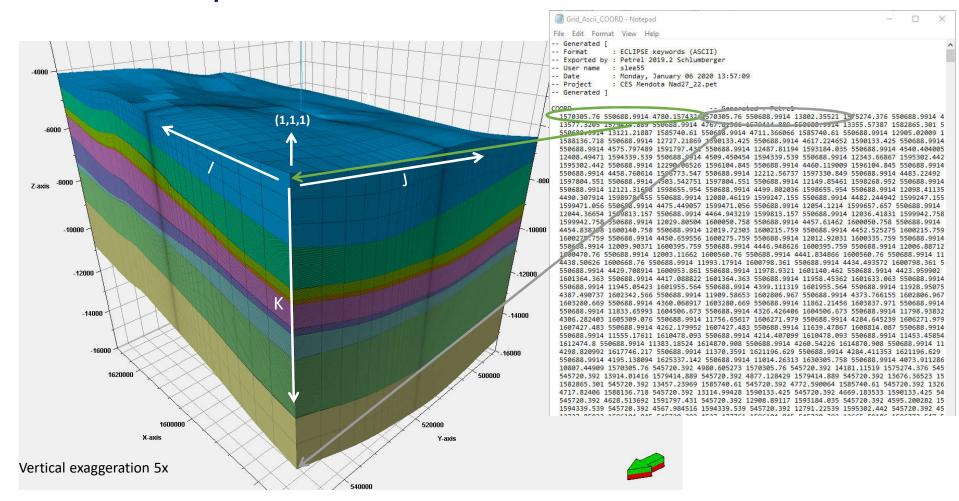


dX<sub>max-min</sub>: 60,000.00

dY<sub>max-min</sub>: 59,999.80

Data provided with COORD keyword includes top and bottom X,Y,Z coordinates of vertical pillars on transformed coordinate system.

## COORD - Keyword



#### COORD - Keyword Grid\_Ascii\_COORD - Notepad File Edit Format View Help - Generated [ ECLIPSE keywords (ASCII) -- Format Petrel 2019.2 Schlumberger Exported by User name Monday, January 06 2020 13:57:09 CES Mendota Nad27\_22.pet -- Project -- Generated ] -- Generated : Petrel 1570305.76 550688.9914 4780.157432 1570305.76 550688.9914 13802.3552 1575274.376 550688.9914 4761.00952 1575274.376 550688.9914 13577.3205 1579414.889 550688.9914 4767.81566 1579414.889 530088.9914 133 550688.9914 13121.21887 1585740.61 550688.9914 711.366066 1585740.61 550688.9914 12905.02009 1588136.715 550688.9914 4664.291453 1588136.718 550688.9914 17727 1365 1590133.425 550688.9914 4617.224652 1590133.425 550688.9914 12727 1365 1590133.425 550688.9914 4617.224652 1590133.425 550688.9914 12797.431 1590137.431 1 (1,1,1)2408 13471 1594339.539 550688.9914 4509.450454 1594339.539 550688.9914 12343.66867 1595302.44% 550688.9914 4482.483223 1595302.442 550688.9914 12290.06526 1596104.845 550688.9914 4460.119009 1596104.845 550688 914 12248.67277 1596773.547 550688.9914 4458.760614 1596773.547 550688.9914 12212.56737 1597330.849 550688.9914 4482.22492 1597330.849 550688.9914 12179.34478 1597804.551 550688.9914 4503.542751 1597804.551 550688.9914 12149.85461 1598268.952 50688.9914 4506.999287 1598268.952 550688.9914 12121.31658 1598655.954 550688.9914 4499.802036 1598655.954 550688.9914 12098.41135 1598978.455 550688.9914 4493.802036 1598655.954 550688.9914 12098.41135 1598978.455 550688.9914 12080.46119 1599247.155 550688.9914 4892 449492 1599247.155 550688.9914 12085.29118 1599471.056 550688.9914 475.449697 1599471.056 550688.9914 12054.1214 159657.657 550688.9914 4469.741549 1599567.657 550688.9914 12044.36654 1599813.157 550688.9914 4492.44949.57 1599471 1599942,758 550688,9914 12029.80504 1600050.758 550688.9914 4457.61462 1600050.758 550688.9914 12024.29431 1600140.758 550688.9914 4454.838258 1600140.758 550688.9914 12019.72303 1600215.759 550688.9914 4452.525275 1600215.759 550688.9914 12015.93691 1600275.759 550688.9914 4456.659556 1600275.759 550688.9914 2012.92031 1600335.759 550688.9914 4448.799208 1600335.759 550688.9914 12009.90371 1600395.759 550688.9914 4444.632712 1600470.76 550688.9914 12003.11662 1600560.76 550688.9914 4441.834866 1600560.76 550688.9914 11998.59221 1600668.76 550688.9914 4438.50626 1600668.76 550688.9914 11993.17914 1600/98.361 550688.9914 4434.493572 1600798.361 550688.9914 11986.70161 1600953.861 10000 550688.9914 4429.708914 1600953.861 550688.9914 11978.9321 1601140.462 550688.9914 4423.959902 1601140.462 550688.9914 11969.61669 1601364.363 550688.9914 4417.088822 1601364.363 550688.9914 11958.45362 1601633.063 550688.9914 4408.887178 1601633.063 550688.9914 11945.05423 1601955.564 55048.9914 4399.111319 1601955.564 550688.9914 11928.95075 1602342.566 550688.9914 4387.480737 1602342.566 550688.9914 1898.5855 1602306.2915 1602308.9914 4373.766155 1602308.9915 1802308.9914 18082.2255 1602308.9914 18082.0255 1602308.9914 18082.0255 1602308.9914 18082.0255 1602308.9914 18082.0255 1602308.9914 18082.0255 1602308.9914 18082.0255 1602308.9915 1802308.991 550688.9914 11833.65993 1604506.673 550688.9914 4326.426406 1604506.673 550688.9914 11798.93832 1605309.076 550688.9914 12000 4306.282403 1605309.076 500688.9914 11756.65617 1606271.979 550688.9914 4284.645239 1606271.979 550688.9914 11704.72659 1607427.483 550688.9914 4262.179952 1607427.483 550688.9914 11639.47867 1608814.087 550688.9914 4238.180488 1608814.087 550688.9914 11555 1/611 1610478.093 550688.9914 4214.407099 1610478.093 550688.9914 11453.45854 1612474.8 550688.9914 4214.038447 1612474.8 550688.9914 1333.18524 1614870.908 550688.9914 4260.54226 1614870.908 550688.9914 11394.26139 1617746.217 550688.9914 4298.820992 1617746.217 550688.9914 11373.3591 1621196.629 550668.9914 4284.411353 1621196.629 5506688.9914 4286.820992 1617746.217 550688.9914 11373.96678 1625337.142 -14000 550688 914 4195.138094 1625337.142 550688.9914 11014.26313 1630305.758 550688.9914 4073.911286 1630305.758 550688.9914 10807.44909 1570305.76 545720.392 4980.605273 1570305.76 545720.392 14181.11519 1575274.376 545720.392 4919.646899 1575274.376 45720.392 13914.01416 1579414.889 545720.392 4877.128429 1579414.889 545720.392 13676.36523 1582865.301 545720.392 4828.039172 1582865.301 545720.392 13457.23969 1585740.61 545720.392 4772.590064 1585740.61 545720.392 13268.0594 1588136.718 545720.392 4717.82406 1588136.718 545720.392 13114.99428 1590133.425 545720.392 4669.183533 1590133.425 545720.392 12997.01795 1591797.431 545720.392 4628.513692 1591797.431 545720.392 12908.89117 1593184.035 545720.392 4595.200282 1593184.035 545720.392 12844.79755 .16000 1594339.539 545720.392 4567.984516 1594339.539 545720.392 12791.22539 1595302.442 545720.392 4545.738467 1595302.442 545720.392 12727.85833 1596104.845 545720.392 4527.477761 1596104.845 545720.392 12665.59186 1596773.547 545720.392 4512.450448 1596773.547 1620000 545720.392 12620.04898 1597330.849 545720.392 4500.015414 1597330.849 545720.392 12586.30881 1597804.551 545720.392 4489.523247 $N_x = 53$ , $N_v = 53$ 1600000 Hence, there are Y.axis $(Nx+1) \times (Ny+1) \times 2$ Vertical exaggeration 5x sets of X,Y,Z

For detailed description please see Eclipse Reference Manual.

coordinates

## **ZCORN - Keyword**

```
Grid_Ascii_ZCORN - Notepad
              : ECLIPSE keywords (ASCII)
-- Format
-- Exported by : Petrel 2019.2 Schlumberger
-- User name
              : slee55
              : Monday, January 06 2020 13:57:09
-- Date
-- Project
              : CES Mendota Nad27_22.pet
-- Generated ]
                                       -- Generated : Petrel
 4780.16 2*4761.01 2*4767.82 2*4749.84 2*4711.37 2*4664.29 2*4617.22 2*4575.8 2*4540.4 2*4509.45
 4458.76 2*4483.22 2*4503.54 2*4507 2*4499.8 2*4490.31 2*4482.24 2*4475.45 2*4469.74 2*4464.94 2
 2*4452.53 2*4450.66 2*4448.8 2*4446.95 2*4444.63 2*4441.83 2*4438.51 2*4434.49 2*4429.71 2*4423
 4399.11 2*4387.49 2*4373.77 2*4360.07 2*4344.42 2*4326.43 2*4306.28 2*4284.65 2*4262.18 2*4238.
 4260.54 2*4298.82 2*4284.41 2*4195.14 4073.91 4980.61 2*4919.65 2*4877.13 2*4828.04 2*4772.59 2
 2*4595.2 2*4567.98 2*4545.74 2*4527.48 2*4512.45 2*4500.02 2*4489.52 2*4479.29 2*4470.77 2*4463
 4448.76 2*4445.32 2*4442.48 2*4440.06 2*4438.06 2*4436.41 2*4435.06 2*4433.7 2*4432.37 2*4430.7
 4423.29 2*4419.78 2*4415.48 2*4410.31 2*4404.08 2*4396.57 2*4387.41 2*4376.41 2*4364.95 2*4365.
 4543.56 2*4513.47 2*4477.8 2*4438.19 2*4401.37 2*4374.05 2*4355.43 2*4333.89 2*4251.65 4130.06
 2*4828.04 2*4772.59 2*4717.82 2*4669.18 2*4628.51 2*4595.2 2*4567.98 2*4545.74 2*4527.48 2*4512
 4479.29 2*4470.77 2*4463.7 2*4457.8 2*4452.88 2*4448.76 2*4445.32 2*4442.48 2*4440.06 2*4438.06
 2*4432.37 2*4430.71 2*4428.66 2*4426.24 2*4423.29 2*4419.78 2*4415.48 2*4410.31 2*4404.08 2*439
 4364.95 2*4365.31 2*4427.26 2*4535.6 2*4543.56 2*4513.47 2*4477.8 2*4438.19 2*4401.37 2*4374.05
 4251.65 4130.06 5156.45 2*5066.9 2*4992.36 2*4922.38 2*4855.46 2*4795.25 2*4744.38 2*4703.1 2*4
 4609.77 2*4598.01 2*4588.92 2*4581.7 2*4575.07 2*4569.88 2*4565.77 2*4562.48 2*4559.82 2*4557.6
 2*4552.19 2*4551.35 2*4550.69 2*4550.03 2*4549.36 2*4548.54 2*4547.54 2*4546.35 2*4544.92 2*454
 4535.52 2*4531.75 2*4527.05 2*4521.18 2*4514.92 2*4507.22 2*4497.53 2*4485.4 2*4470.47 2*4452.5
 4564.75 2*4517.56 2*4483.99 2*4442.38 2*4340.02 4187.91 5156.45 2*5066.9 2*4992.36 2*4922.38 2*
 4703.1 2*4670.37 2*4644.81 2*4625.02 2*4609.77 2*4598.01 2*4588.92 2*4581.7 2*4575.07 2*4569.88
 4559.82 2*4557.65 2*4555.87 2*4554.4 2*4553.2 2*4552.19 2*4551.35 2*4550.69 2*4550.03 2*4549.36
 4546.35 2*4544.92 2*4543.2 2*4541.12 2*4538.6 2*4535.52 2*4531.75 2*4527.05 2*4521.18 2*4514.92
 2*4470.47 2*4452.54 2*4431.99 2*4456.57 2*4564.75 2*4517.56 2*4483.99 2*4442.38 2*4340.02 4187.
 5100.84 2*5025.46 2*4957.69 2*4897.27 2*4845.09 2*4801.76 2*4767.87 2*4742.98 2*4725.77 2*4714.
 4695.94 2*4690.52 2*4686.33 2*4683.22 2*4680.92 2*4679.19 2*4677.9 2*4676.92 2*4676.13 2*4675.5
 4674.35 2*4674.06 2*4673.76 2*4673.4 2*4672.99 2*4672.5 2*4671.93 2*4671.25 2*4670.43 2*4669.42
 2*4661.12 2*4657.55 2*4652.88 2*4646.74 2*4638.8 2*4628.81 2*4616.51 2*4601.77 2*4585.58 2*4573
 4468.37 2*4376.63 4218.18 5289.92 2*5187.94 2*5100.84 2*5025.46 2*4957.69 2*4897.27 2*4845.09 2
 2*4725.77 2*4714.68 2*4707.34 2*4701.43 2*4695.94 2*4690.52 2*4686.33 2*4683.22 2*4680.92 2*467
 4676.13 2*4675.53 2*4675.05 2*4674.64 2*4674.35 2*4674.06 2*4673.76 2*4673.4 2*4672.99 2*4672.5
 4670.43 2*4669.42 2*4668.14 2*4666.48 2*4664.2 2*4661.12 2*4657.55 2*4652.88 2*4646.74 2*4638.8
 4601.77 2*4585.58 2*4573.67 2*4578.26 2*4546.55 2*4468.37 2*4376.63 4218.18 5381.35 2*5277.56 2
 2*5005.76 2*4953.92 2*4909.89 2*4877.24 2*4855.02 2*4840.54 2*4830.98 2*4825.86 2*4825.04 2*482
 4824.09 2*4822.05 2*4820.15 2*4818.49 2*4817.11 2*4815.95 2*4815.02 2*4814.25 2*4813.58 2*4813.
 4811.48 2*4810.78 2*4809.93 2*4808.92 2*4807.72 2*4806.33 2*4804.63 2*4802.59 2*4800.05 2*4796.
 4784.41 2*4778.97 2*4772.84 2*4766.13 2*4758.56 2*4748.52 2*4734.05 2*4717.62 2*4703.35 2*4699.
 5381.35 2*5277.56 2*5192.03 2*5123.34 2*5062.88 2*5005.76 2*4953.92 2*4909.89 2*4877.24 2*4855.
 4825.86 2*4825.04 2*4826.37 2*4827.07 2*4825.93 2*4824.09 2*4822.05 2*4820.15 2*4818.49 2*4817.
 4814.25 2*4813.58 2*4813.1 2*4812.61 2*4812.12 2*4811.48 2*4810.78 2*4809.93 2*4808.92 2*4807.7
 4802.59 2*4800.05 2*4796.95 2*4793.1 2*4789.09 2*4784.41 2*4778.97 2*4772.84 2*4766.13 2*4758.5
 4717.62 2*4703.35 2*4699.01 2*4465.99 2*4379.36 4272.34 5438.14 2*5338.84 2*5261.87 2*5204.83 2
 2*5001.57 2*4973.12 2*4959.07 2*4951.72 2*4946.96 2*4944.35 2*4943.29 2*4940.75 2*4936.62 2*493
 4928.84 2*4927.46 2*4926.32 2*4925.36 2*4924.59 2*4923.97 2*4923.44 2*4923.06 2*4922.68 2*4922. N
```

COORD keyword is followed by ZCORN keyword. ZCORN keyword defines the subsea elevation of each cell's 8 corners.

The keyword is followed by 2 \* Nx \* 2 \* Ny \* 2 \* Nz values, where Nx, Ny, Nz are the number of cells in each direction.

For cell i, the 8 ZCORN values are  $z_{i,1}$ ,  $z_{i,2}$ ,  $z_{i,3}$ ,  $z_{i,4}$ ,  $z_{i,5}$ ,  $z_{i,6}$ ,  $z_{i,7}$ ,  $z_{i,8}$ . Here values 1-4 are for the top face, with  $z_{i,1}$  on the far left corner,  $z_{i,2}$  on the far right corner,  $z_{i,3}$  on the near left corner, and  $z_{i,4}$ , on the near right corner. Values 5-8 have the same function for the bottom face. Then the arrangement of

the ZCORN values within this range are:

- for the first row of Nx cells, the far top values  $z_{1,1}$ ,  $z_{1,2}$ ,  $z_{2,1}$ ,  $z_{2,2}$ ,...,  $z_{i,1}$ ,  $z_{i,2}$ ,... $z_{Nx,1}$ ,  $z_{Nx,2}$ , followed by the near top values  $z_{1,3}$ ,  $z_{1,4}$ ,  $z_{2,3}$ ,  $z_{2,4}$ ,...,  $z_{i,3}$ ,  $z_{i,4}$ ,...  $z_{Nx,3}$ ,  $z_{Nx,4}$ .
- Repeat for each subsequent row of Nx cells in the top plane.
- Now repeat the last two steps for the **bottom** values of the top plane.
- Finally, repeat all previous steps for each plane in the grid.

For detailed description please see Eclipse Reference Manual.

# Example

#### Order of COORD rows for 4x5x2 grid

1	2	3	4	5
6	7	8	9	10
11	12	13	14	15
16	17	18	19	20
21	22	23	24	25
26	27	28	29	30

Each number represents Xtop, Ytop, Ztop, Xbot, Ybot, Zbot

# Example

#### Order of ZCORN rows for 4x5x2 grid

2	3	4	5	6	7	8
10	11	12	13	14	15	16
18	19	20	21	22	23	24
26	27	28	29	30	31	32
34	35	36	37	38	39	40
42	43	44	45	46	47	48
50	51	52	53	54	55	56
58	59	60	61	62	63	64
66	67	68	69	70	71	72
74	75	76	77	78	79	80
	18 26 34 42 50 58 66	10 11 18 19 26 27 34 35 42 43 50 51 58 59 66 67	10 11 12 18 19 20 26 27 28 34 35 36 42 43 44 50 51 52 58 59 60 66 67 68	10     11     12     13       18     19     20     21       26     27     28     29       34     35     36     37       42     43     44     45       50     51     52     53       58     59     60     61       66     67     68     69	10     11     12     13     14       18     19     20     21     22       26     27     28     29     30       34     35     36     37     38       42     43     44     45     46       50     51     52     53     54       58     59     60     61     62       66     67     68     69     70	10     11     12     13     14     15       18     19     20     21     22     23       26     27     28     29     30     31       34     35     36     37     38     39       42     43     44     45     46     47       50     51     52     53     54     55       58     59     60     61     62     63       66     67     68     69     70     71

81	82	83	84	85	86	87	88
89	90	91	92	93	94	95	96
97	98	99	100	101	102	103	104
105	106	107	108	109	110	111	112
113	114	115	116	117	118	119	120
121	122	123	124	125	126	127	128
129	130	131	132	133	134	135	136
137	138	139	140	141	142	143	144
145	146	147	148	149	150	151	152
153	154	155	156	157	158	159	160

Top of Layer 1

Bottom of Layer 1

# Example

#### Order of ZCORN rows for 4x5x2 grid

161	162	163	164	165	166	167	168
169	170	171	172	173	174	175	176
177	178	179	180	181	182	183	184
185	186	187	188	189	190	191	192
193	194	195	196	197	198	199	200
201	202	203	204	205	206	207	208
209	210	211	212	213	214	215	216
217	218	219	220	221	222	223	224
225	226	227	228	229	230	231	232
233	234	235	236	237	238	239	240

241	242	243	244	245	246	247	248
249	250	251	252	253	254	255	256
257	258	259	260	261	262	263	264
265	266	267	268	269	270	271	272
273	274	275	276	277	278	279	280
281	282	283	284	285	286	287	288
289	290	291	292	293	294	295	296
297	298	299	300	301	302	303	304
305	306	307	308	309	310	311	312
313	314	315	316	317	318	319	320

Top of Layer 2

Bottom of Layer 2